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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,419	12/19/2000	Andre C. Seznec	1662-25000JMH (POO-3078)	9553

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FORT COLLINS, CO 80527-2400

EXAMINER

PAN, DANIEL H

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 04/02/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Applicati n No.

09/740,419

Applicant(s)

SEZNEC ET AL.

Examiner

pan

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-- The MAILING DATE of this c mmunication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 and 23 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 11-15 and 17 is/are rejected.
- 7) ☒ Claim(s) 5, 7-10, 16 and 18-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Claims 1-23 remain for examination.
2. Claims 1-4,6,11-15,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tran (5,875,324) in view of Nair et al. (5,890,013).

As to claim 1, claim 1 has not been amended. Discussions to the applicant's remarks will follow.

3. As to the amended features of the "branch prediction" accesses in claim 12, Tran's access were also directed to branch predictions (e.g. see the way prediction array and the predicted way hits in col.190, lines 1-29, col.191, lines 1-25).
4. The rejection is maintained and incorporated by reference the last Office action on 11/17/03.
5. The response filed on 01/23/04 has been fully considered but is not persuasive.
6. In the remarks, applicant argued that :
  - a) Tran appear to have nothing at all to do with branch prediction;
  - b) Tran did not teach the multiway branch prediction array, nor the bank control logic to ensure the two accesses to the prediction array do not conflict.
7. As to a) above, applicant does not explain why Tran did not teach branch prediction, and is arguing something already taught by Tran. Tran clearly disclosed that his system is directed to branch prediction array (see fig.2 [255, fig.52 for memory banks).

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8. As to b), Tran also taught a bank control to ensure the two accesses are in conflict (see the two ports A,B for allowing concurrent accesses per cycle in col.189, lines 50-67, col.190, lines 1-29, lines 66-69, col.191, lines 1-4).

9. Claims 5,16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the bank identifier for the conditional branch that was different than the bank identifier for a conditional branch that was last used. Tran disclosed bank identifier (bank0-bank7), but it did not teach the determination of the difference of the bank identifier of the last used to access the prediction array.

10. Claims 7-9 , 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the comparison of the two bits value with the last used bank number.

11. Claims 10, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

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the base claim and any intervening claims. None of the prior art of record further teaches the pair of the 4-1 mux from the output of the single ported bank. Tran had a multiplexer (selector) , but it was neither a 4-1 mux nor a pair of 4-1 mux.

12. Claims 22,23 are allowable over the art of record. None of the prior art of record teaches the use of the two bits as current bank number if the previous bank number differs, and the change of the bank number if the previous bank number is equal for a conditional branch to access the prediction array .

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DANIEL H. PAN  
PRIMARY EXAMINER  
GROUP 1/18